

## Normal involvement report

13-Jan-97

Activity Class	Involvement Class	Class Object
AUTHORISE	AUTHORISEABLE	ACTIVITY CLASS
AUTHORISE	AUTHORISEABLE	CHARACTERISTIC CLASS
AUTHORISE	AUTHORISEABLE	FACILITY CLASS
AUTHORISE	AUTHORISEABLE	INFORMATION CONTENT CLASS
AUTHORISE	AUTHORISEABLE	MATERIAL CLASS
AUTHORISE	AUTHORISEABLE	ORGANISATION CLASS
AUTHORISE	AUTHORISEABLE	PERSON CLASS
AUTHORISE	AUTHORITY	ORGANISATION CLASS
AUTHORISE	AUTHORITY	PERSON CLASS
AUTHORISE	PURPOSE	ACTIVITY CLASS
CONTROL AND APPROVE ACTIVITIES	BASIS	CHANGE REQUEST
CONTROL AND APPROVE ACTIVITIES	BASIS	OWNER REQUIREMENTS
CONTROL AND APPROVE ACTIVITIES	BASIS	SITE INFORMATION
CONTROL AND APPROVE ACTIVITIES	BASIS	STATUS
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	BUSINESS DIRECTIVES
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	CODES
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	CORPORATE STANDARDS
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	REGULATORY REQUIREMENTS
CONTROL AND APPROVE ACTIVITIES	PRODUCT	AUTHORIZATION PLAN
CONTROL AND APPROVE ACTIVITIES	PRODUCT	PROJECT AUTHORIZATIONS/CONTROLS
CONTROL AND APPROVE ACTIVITIES	PRODUCT	SCHEDULES
DECOMMISSION & DEMOLISH OF PLANT DOCUMENTATION	CONTROLLER	PLANT OPERATION/MAINTENANCE
DECOMMISSION & DEMOLISH OF PLANT	PRODUCT	RESTORED SITE
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS CONTROL LOGIC
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS FLOW DIAGRAM (PFD)
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS STREAM DATA
DEFINE COMMISSIONING PHILOSOPHY	BASIS	SITE INFORMATION
DEFINE COMMISSIONING PHILOSOPHY	CONTROLLER	COST AND TIME ESTIMATES
DEFINE COMMISSIONING PHILOSOPHY	CONTROLLER	EQUIPMENT SPECIFICATION
DEFINE COMMISSIONING PHILOSOPHY	CONTROLLER	WEIGHT AND VOLUME ESTIMATES
DEFINE COMMISSIONING PHILOSOPHY	PRODUCT	COMMISSIONING PHILOSOPHY

DEFINE COMMISSIONING PHILOSOPHY

DEFINE CONTAINMENT PHILOSOPHY

DEFINE CONTAINMENT PHILOSOPHY

DEFINE CONTAINMENT PHILOSOPHY

PRODUCT

BASIS

CONTROLLER

PRODUCT

RULES AND SEQUENCES

REGULATORY REQUIREMENTS

DESIGN SAFETY PHILOSOPHY

CONTAINMENT PHILOSOPHY

Activity Class	Involvement Class	Class Object
DEFINE CONTROL PHILOSOPHY	BASIS	OWNER REQUIREMENTS
DEFINE CONTROL PHILOSOPHY	BASIS	PROCESS FLOW DIAGRAM (PFD)
DEFINE CONTROL PHILOSOPHY	CONTROLLER	CODES
DEFINE CONTROL PHILOSOPHY	CONTROLLER	DESIGN BASIS
DEFINE CONTROL PHILOSOPHY	CONTROLLER	HEAT/MASS BALANCE
DEFINE CONTROL PHILOSOPHY	CONTROLLER	UNIT OPERATIONS
DEFINE CONTROL PHILOSOPHY	PRODUCT	PROCESS CONTROL LOGIC
DEFINE END REQUIREMENTS	BASIS	OWNER REQUIREMENTS
DEFINE END REQUIREMENTS	BASIS	SITE INFORMATION
DEFINE END REQUIREMENTS	CONTROLLER	CODES
DEFINE END REQUIREMENTS	CONTROLLER	DESIGN BASIS
DEFINE END REQUIREMENTS	PRODUCT	END REQUIREMENTS
DEFINE ENGINEERING DESIGN STRATEGY	BASIS	TIME/COST ESTIMATES
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	AVAILABILITY REQUIREMENTS
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	CODES
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	CORPORATE STANDARDS
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	DESIGN BASIS
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	ENGINEERING PHILOSOPHY
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	STANDARD
DEFINE ENGINEERING DESIGN STRATEGY	PRODUCT	TECHNICAL RISK ASSESSMENT
DEFINE ENGINEERING DESIGN STRATEGY	PRODUCT	TIME/COST ESTIMATES
DEFINE OVERALL REQUIREMENT	BASIS	OWNER REQUIREMENTS
DEFINE OVERALL REQUIREMENT	BASIS	SITE INFORMATION
DEFINE OVERALL REQUIREMENT	CONTROLLER	DESIGN BASIS
DEFINE PROCEDURES, STANDARDS AND GUIDELIN		BASIS CHANGE REQUEST
DEFINE PROCEDURES, STANDARDS AND GUIDELIN		BASIS OWNER REQUIREMENTS
DEFINE PROCEDURES, STANDARDS AND GUIDELIN		CONTROLLER AUTHORIZATION PLAN
DEFINE PROCEDURES, STANDARDS AND GUIDELIN		CONTROLLER REGULATORY REQUIREMENTS
DEFINE PROCEDURES, STANDARDS AND GUIDELIN PROCEDURES/STANDARDS/GUIDELINES		PRODUCT PROJECT SPECIFIC
DEFINE SAFETY PHILOSOPHIES DESIGN STRA	BASIS	CONCEPTUAL SAFETY ENGINEERING DESIGN
DEFINE SAFETY PHILOSOPHIES	CONTROLLER	ENGINEERING DESIGN STRATEGY
DEFINE SAFETY PHILOSOPHIES	PRODUCT	DESIGN SAFETY PHILOSOPHY
DEFINE UNIT OPERATIONS	BASIS	OWNER REQUIREMENTS

DEFINE UNIT OPERATIONS	BASIS	PROCESS CONTROL LOGIC
DEFINE UNIT OPERATIONS	BASIS	SITE INFORMATION
DEFINE UNIT OPERATIONS	BASIS	STREAM DATA
DEFINE UNIT OPERATIONS	CONTROLLER	CODES
DEFINE UNIT OPERATIONS	CONTROLLER	DESIGN BASIS

Activity Class	Involvement Class	Class Object
DEFINE UNIT OPERATIONS	PRODUCT	TIME/COST ESTIMATES
DEFINE UNIT OPERATIONS	PRODUCT	UNIT OPERATIONS
DESCRIBE AN ITEM	DESCRIBED	ACTIVITY CLASS
DESCRIBE AN ITEM	DESCRIBED	CHARACTERISTIC CLASS
DESCRIBE AN ITEM	DESCRIBED	FACILITY CLASS
DESCRIBE AN ITEM	DESCRIBED	INFORMATION CONTENT CLASS
DESCRIBE AN ITEM	DESCRIBED	MATERIAL CLASS
DESCRIBE AN ITEM	DESCRIBED	ORGANISATION CLASS
DESCRIBE AN ITEM	DESCRIBED	PERSON CLASS
DESCRIBE AN ITEM	DESCRIPTOR	INFORMATION CONTENT CLASS
DESCRIBE AN ITEM	PERFORMER	FACILITY CLASS
DESIGN A PROCESS	BASIS	SITE INFORMATION
DESIGN A PROCESS	CONTROLLER	END REQUIREMENTS
DESIGN A PROCESS	CONTROLLER	SAFETY HAZOPS ANALYSIS
DESIGN A PROCESS	CONTROLLER	START CONDITIONS
DESIGN A PROCESS	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
DESIGN PLANT OPERATION	BASIS	ENGINEERING DESIGN, CONSTRUCTION, AND
DESIGN PLANT	BASIS	OWNER REQUIREMENTS
DESIGN PLANT	BASIS	SITE INFORMATION
DESIGN PLANT	BASIS	TIME/COST ESTIMATES
DESIGN PLANT	CONTROLLER	CORPORATE STANDARDS
DESIGN PLANT	CONTROLLER	DESIGN BASIS
DESIGN PLANT	CONTROLLER	PROJECT AUTHORIZATIONS/CONTROLS
DESIGN PLANT	CONTROLLER	PROJECT FINANCIAL PLAN
DESIGN PLANT PROCEDURES/STANDARDS/GUIDELINES	CONTROLLER	PROJECT SPECIFIC
DESIGN PLANT	CONTROLLER	REGULATORY REQUIREMENTS
DESIGN PLANT	CONTROLLER	SCHEDULES
DESIGN PLANT	PRODUCT	ENVIRONMENTAL IMPACT ASSESSMENT
DESIGN PLANT	PRODUCT	EQUIPMENT LIST
DESIGN PLANT	PRODUCT	LINE SCHEDULE/LIST
DESIGN PLANT	PRODUCT	OPERATION DATA AND DIRECTIVES
DESIGN PLANT	PRODUCT	P AND I DIAGRAM
DESIGN PLANT	PRODUCT	PROCESS CONTROL LOGIC

DESIGN PLANT	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
DESIGN PLANT PROCEDURES/STANDARDS/GUIDELINES	PRODUCT	PROJECT SPECIFIC
DESIGN PLANT	PRODUCT	REGULATORY AUTHORIZATIONS
DESIGN PLANT	PRODUCT	SAFETY HAZOPS ANALYSIS
DESIGN PLANT	PRODUCT	SCHEMATIC DIAGRAMS

Activity Class	Involvement Class	Class Object	
DESIGN PLANT	PRODUCT	STATUS	
DESIGN PLANT	PRODUCT	STREAM DATA	
DESIGN PLANT	PRODUCT	SYSTEM LAYOUT/DESIGN	
DESIGN PLANT	PRODUCT	TIME/COST ESTIMATES	
DETERMINE ENGINEERING APPROACH	BASIS	OWNER REQUIREMENTS	
DETERMINE ENGINEERING APPROACH	BASIS	SITE INFORMATION	
DETERMINE ENGINEERING APPROACH	CONTROLLER	CODES	
DETERMINE ENGINEERING APPROACH	CONTROLLER	CORPORATE STANDARDS	
DETERMINE ENGINEERING APPROACH	CONTROLLER	DESIGN BASIS	
DETERMINE ENGINEERING APPROACH	PRODUCT	ENGINEERING DESIGN STRATEGY	
DETERMINE STATUS OF EXISTING PLANT	BASIS	SITE INFORMATION	
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	CODES	
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	CORPORATE STANDARDS	
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	DESIGN BASIS	
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	ENGINEERING PHILOSOPHY	
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	STANDARD	
DETERMINE STATUS OF EXISTING PLANT	PRODUCT	AVAILABILITY REQUIREMENTS	
ESTABLISH PLANT DESIGN BASIS	BASIS	OWNER REQUIREMENTS	
ESTABLISH PLANT DESIGN BASIS	BASIS	RESOURCES	
ESTABLISH PLANT DESIGN BASIS	BASIS	SITE INFORMATION	
ESTABLISH PLANT DESIGN BASIS PROCEDURES/STANDARDS/GUIDELINES	CONTROLLER	PROJECT SPECIFIC	
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	REGULATORY AGREEMENTS	
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	REGULATORY REQUIREMENTS	
ESTABLISH PLANT DESIGN BASIS	PRODUCT	CHANGE REQUEST	
ESTABLISH PLANT DESIGN BASIS	PRODUCT	CODES	
ESTABLISH PLANT DESIGN BASIS	PRODUCT	DESIGN BASIS	
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD		BASIS	PROCESS CONTROL LOGIC
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD		BASIS	PROCESS FLOW DIAGRAM (PFD)
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD		BASIS	PROCESS STREAM DATA
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD		BASIS	SITE INFORMATION
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD		PRODUCT	EQUIPMENT LIST
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA		BASIS	PROCESS CONTROL LOGIC
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA		BASIS	SITE INFORMATION
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA		BASIS	STREAM DATA

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IDENTIFY MATERIALS OF CONSTRUCTION FOR PR  
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR

PRODUCT	EQUIPMENT LIST
BASIS	PROCESS CONTROL LOGIC
BASIS	PROCESS FLOW DIAGRAM (PFD)
BASIS	PROCESS STREAM DATA



Activity Class	Involvement Class	Class Object
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR		BASIS SITE INFORMATION
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR		PRODUCT EQUIPMENT LIST
IDENTIFY REGULATORY REQUIREMENTS	BASIS	DESIGN SAFETY PHILOSOPHY
IDENTIFY REGULATORY REQUIREMENTS	PRODUCT	REGULATORY REQUIREMENTS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		BASIS OWNER REQUIREMENTS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		BASIS SITE INFORMATION
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		CONTROLLER CODES
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		CONTROLLER DESIGN BASIS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		CONTROLLER END REQUIREMENTS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		CONTROLLER START CONDITIONS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS		PRODUCT SAFETY HAZOPS ANALYSIS
IDENTIFY START CONDITIONS	BASIS	OWNER REQUIREMENTS
IDENTIFY START CONDITIONS	BASIS	SITE INFORMATION
IDENTIFY START CONDITIONS	CONTROLLER	CODES
IDENTIFY START CONDITIONS	CONTROLLER	DESIGN BASIS
IDENTIFY START CONDITIONS	CONTROLLER	END REQUIREMENTS
IDENTIFY START CONDITIONS	PRODUCT	START CONDITIONS
MANAGE PLANT	CONTROLLER	AS-BUILT DOCUMENTS
MANAGE PLANT	CONTROLLER	OPERATING PROCEDURES
MANAGE PROJECT	BASIS	OWNER REQUIREMENTS
MANAGE PROJECT	BASIS	REGULATORY REQUIREMENTS
MANAGE PROJECT	BASIS	SITE INFORMATION
MANAGE PROJECT	BASIS	STATUS
MANAGE PROJECT	BASIS	TIME/COST ESTIMATES
MANAGE PROJECT	CONTROLLER	BUSINESS DIRECTIVES
MANAGE PROJECT	CONTROLLER	CORPORATE STANDARDS
MANAGE PROJECT	CONTROLLER	LEGAL REGULATORY AND SOCIAL CONSTRAINTS
MANAGE PROJECT	CONTROLLER	REGULATORY REQUIREMENTS
MANAGE PROJECT	PRODUCT	DESIGN BASIS
MANAGE PROJECT	PRODUCT	PROJECT AUTHORIZATIONS/CONTROLS
MANAGE PROJECT	PRODUCT	PROJECT FINANCIAL PLAN
MANAGE PROJECT PROCEDURES/STANDARDS/GUIDELINES	PRODUCT	PROJECT SPECIFIC
MANAGE PROJECT	PRODUCT	REGULATORY AGREEMENTS
MANAGE PROJECT	PRODUCT	SAFETY COMPLIANCE REPORT

MANAGE PROJECT	PRODUCT	SCHEDULES
OBTAIN AGREEMENT WITH REGULATORY BODIES		BASIS OWNER REQUIREMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES		BASIS REGULATORY AGREEMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES		CONTROLLER REGULATORY REQUIREMENTS

Activity Class	Involvement Class	Class Object
OBTAIN AGREEMENT WITH REGULATORY BODIES		CONTROLLER SCHEDULES
OBTAIN AGREEMENT WITH REGULATORY BODIES		PRODUCT CHANGE REQUEST
OBTAIN AGREEMENT WITH REGULATORY BODIES		PRODUCT REGULATORY AGREEMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES		PRODUCT SAFETY COMPLIANCE REPORT
OBTAIN CODES AND STANDARDS	BASIS	OWNER REQUIREMENTS
OBTAIN CODES AND STANDARDS	CONTROLLER	CODES
OBTAIN CODES AND STANDARDS	CONTROLLER	CORPORATE STANDARDS
OBTAIN CODES AND STANDARDS	CONTROLLER	DESIGN BASIS
OBTAIN CODES AND STANDARDS	PRODUCT	CODES
OBTAIN CODES AND STANDARDS	PRODUCT	STANDARD
OPERATE AND MAINTAIN PLANT	BASIS	COMMISSIONED PLANT
OPERATE AND MAINTAIN PLANT	CONTROLLER	AS-BUILT DOCUMENTS
OPERATE AND MAINTAIN PLANT	CONTROLLER	OPERATING PROCEDURES
OPERATE AND MAINTAIN PLANT OPERATION	PRODUCT	ENGINEERING DESIGN, CONSTRUCTION, AND
OPERATE AND MAINTAIN PLANT DOCUMENTATION	PRODUCT	PLANT OPERATION/MAINTENANCE
OPERATE AND MAINTAIN PLANT	PRODUCT	PLANT SAFETY MANAGEMENT REPORT
OPERATE PLANT	BASIS	CHANGE REQUEST
OPERATE PLANT	CONTROLLER	AS-BUILT DOCUMENTS
OPERATE PLANT	CONTROLLER	OPERATING PROCEDURES
PLAN/ANALYSE PROJECT FINANCES	BASIS	CHANGE REQUEST
PLAN/ANALYSE PROJECT FINANCES	BASIS	OWNER REQUIREMENTS
PLAN/ANALYSE PROJECT FINANCES	BASIS	RESOURCES
PLAN/ANALYSE PROJECT FINANCES	BASIS	TIME/COST ESTIMATES
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	CAPITAL APPROPRIATION
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	REGULATORY REQUIREMENTS
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	SCHEDULES
PLAN/ANALYSE PROJECT FINANCES	PRODUCT	CHANGE REQUEST
PLAN/ANALYSE PROJECT FINANCES	PRODUCT	PROJECT FINANCIAL PLAN
PROCURE & CONTROL EQUIPMENT, MATERIALS &		PROVIDER EQUIPMENT TYPE
PROCURE & CONTROL EQUIPMENT, MATERIALS &		SERVICE FACILITY CLASS
PROCURE COMPONENTS & CONSTRUCT PLANT & CO		BASIS EQUIPMENT LIST
PROCURE COMPONENTS & CONSTRUCT PLANT & CO		BASIS P AND I DIAGRAM
PROCURE COMPONENTS & CONSTRUCT PLANT & CO		BASIS PROCESS FLOW DIAGRAM (PFD)

PROCURE COMPONENTS & CONSTRUCT PLANT & CO  
PROCURE COMPONENTS & CONSTRUCT PLANT & CO  
PROCURE COMPONENTS & CONSTRUCT PLANT & CO  
PROCURE COMPONENTS & CONSTRUCT PLANT & CO  
PROCURE COMPONENTS & CONSTRUCT PLANT & CO  
AUTHORIZATIONS/CONTROLS

BASIS SCHEMATIC DIAGRAMS  
BASIS SITE INFORMATION  
BASIS SYSTEM LAYOUT/DESIGN  
BASIS VENDOR SUPPLIERS LIST  
CONTROLLER PROJECT

Activity Class	Involvement Class	Class Object
PROCURE COMPONENTS & CONSTRUCT PLANT & CO		CONTROLLER PROJECT FINANCIAL PLAN
PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCEDURES/STANDARDS/GUIDELINES		CONTROLLER PROJECT SPECIFIC
PROCURE COMPONENTS & CONSTRUCT PLANT & CO		CONTROLLER SCHEDULES
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	AS-BUILT DOCUMENTS
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	COMMISSIONED PLANT
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	DELIVERY DATES
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	STATUS
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	TIME/COST ESTIMATES
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	VENDOR DATA
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	PRODUCT	VENDOR INSPECTION RESULTS
PRODUCE COMPOSITION OF PROCESS STREAMS	BASIS	OWNER REQUIREMENTS
PRODUCE COMPOSITION OF PROCESS STREAMS	BASIS	PROCESS CONTROL LOGIC
PRODUCE COMPOSITION OF PROCESS STREAMS	CONTROLLER	CODES
PRODUCE COMPOSITION OF PROCESS STREAMS	CONTROLLER	DESIGN BASIS
PRODUCE COMPOSITION OF PROCESS STREAMS	CONTROLLER	HEAT/MASS BALANCE
PRODUCE COMPOSITION OF PROCESS STREAMS	CONTROLLER	UNIT OPERATIONS
PRODUCE COMPOSITION OF PROCESS STREAMS	PRODUCT	STREAM DATA
PRODUCE COMPOSITION OF PROCESS STREAMS	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	SITE INFORMATION
PRODUCE CONCEPTUAL ENGINEERING DESIGN	CONTROLLER	DESIGN BASIS
PRODUCE CONCEPTUAL ENGINEERING DESIGN REQUIREMENTS	CONTROLLER	EQUIPMENT PROCESS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	CONTROLLER	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	CHANGE REQUEST
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	EQUIPMENT LAYOUTS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	EQUIPMENT LIST
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	PROCESS CONTROL LOGIC
PRODUCE CONCEPTUAL ENGINEERING DESIGN PROCEDURES/STANDARDS/GUIDELINES	PRODUCT	PROJECT SPECIFIC
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	SCHEMATIC DIAGRAMS

PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	SYSTEM LAYOUT/DESIGN
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	CHANGE REQUEST
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	CHARACTERISTIC CLASS
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	OWNER REQUIREMENTS

Activity Class	Involvement Class	Class Object
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	SITE INFORMATION
PRODUCE CONCEPTUAL PROCESS DESIGN	CONTROLLER	CODES
PRODUCE CONCEPTUAL PROCESS DESIGN	CONTROLLER	DESIGN BASIS
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	PROCESS CONTROL LOGIC
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	SAFETY HAZOPS ANALYSIS
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL SAFETY ENGINEERING DES		BASIS SITE INFORMATION
PRODUCE CONCEPTUAL SAFETY ENGINEERING DES		CONTROLLER ENGINEERING DESIGN STRATEGY
PRODUCE CONTROL SYSTEM ARCHITECTURE		BASIS PROCESS CONTROL LOGIC
PRODUCE CONTROL SYSTEM ARCHITECTURE		BASIS PROCESS FLOW DIAGRAM (PFD)
PRODUCE CONTROL SYSTEM ARCHITECTURE		BASIS PROCESS STREAM DATA
PRODUCE CONTROL SYSTEM ARCHITECTURE		BASIS SYSTEM SPECIFICATIONS
PRODUCE CONTROL SYSTEM ARCHITECTURE		CONTROLLER EQUIPMENT DESIGN PHILOSOPHY
PRODUCE CONTROL SYSTEM ARCHITECTURE		CONTROLLER EQUIPMENT LIST
PRODUCE CONTROL SYSTEM ARCHITECTURE		PRODUCT SYSTEM LAYOUT/DESIGN
PRODUCE COST AND TIME ESTIMATES	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE COST AND TIME ESTIMATES	BASIS	SYSTEM SPECIFICATIONS
PRODUCE COST AND TIME ESTIMATES	BASIS	WEIGHT AND VOLUME ESTIMATES
PRODUCE COST AND TIME ESTIMATES	CONTROLLER	EQUIPMENT SPECIFICATION
PRODUCE COST AND TIME ESTIMATES	PRODUCT	COST AND TIME ESTIMATES
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT LAYOUTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT LIST
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT SPECIFICATION
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	P AND I DIAGRAM
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROJECT SPECIFIC
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROCEDURES/STANDARDS/GUIDELINES
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SCHEMATIC DIAGRAMS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SITE INFORMATION
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SYSTEM LAYOUT/DESIGN

PRODUCE DETAILED ENGINEERING DESIGN CONTROLLER

PRODUCE DETAILED ENGINEERING DESIGN PRODUCT

PRODUCE DETAILED ENGINEERING DESIGN PRODUCT

PRODUCE DETAILED ENGINEERING DESIGN PRODUCT

SAFETY HAZOPS ANALYSIS

CHANGE REQUEST

EQUIPMENT LIST

EQUIPMENT PROCESS REQUIREMENTS



Activity Class	Involvement Class	Class Object
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE DETAILED ENGINEERING DESIGN PROCEDURES/STANDARDS/GUIDELINES	PRODUCT	PROJECT SPECIFIC
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	REGULATORY AUTHORIZATIONS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SAFETY COMPLIANCE REPORT
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SCHEMATIC DIAGRAMS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SYSTEM LAYOUT/DESIGN
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE DETAILED PROCESS DESIGN	BASIS	CHANGE REQUEST
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT LAYOUTS
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT LIST
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT SPECIFICATION
PRODUCE DETAILED PROCESS DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE DETAILED PROCESS DESIGN	BASIS	P AND I DIAGRAM
PRODUCE DETAILED PROCESS DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE DETAILED PROCESS DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE DETAILED PROCESS DESIGN	BASIS	SITE INFORMATION
PRODUCE DETAILED PROCESS DESIGN	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE DETAILED PROCESS DESIGN	CONTROLLER	DESIGN BASIS
PRODUCE DETAILED PROCESS DESIGN	CONTROLLER	SAFETY HAZOPS ANALYSIS
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	CHANGE REQUEST
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	ENVIRONMENTAL IMPACT ASSESSMENT
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	LINE SCHEDULE/LIST
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	OPERATING PROCEDURES
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	SAFETY HAZOPS ANALYSIS
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	STREAM DATA
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE HEAT AND MASS BALANCE	BASIS	CHARACTERISTIC CLASS
PRODUCE HEAT AND MASS BALANCE	BASIS	OWNER REQUIREMENTS
PRODUCE HEAT AND MASS BALANCE	BASIS	STREAM DATA
PRODUCE HEAT AND MASS BALANCE	CONTROLLER	CODES

PRODUCE HEAT AND MASS BALANCE	CONTROLLER	DESIGN BASIS
PRODUCE HEAT AND MASS BALANCE	CONTROLLER	UNIT OPERATIONS
PRODUCE HEAT AND MASS BALANCE	PRODUCT	HEAT/MASS BALANCE
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO		BASIS          EQUIPMENT LIST

Activity Class	Involvement Class	Class Object	
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO		BASIS	PROCESS CONTROL LOGIC
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO		BASIS	PROCESS STREAM DATA
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO		PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN		BASIS	EQUIPMENT LIST
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN		BASIS	PROCESS CONTROL LOGIC
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN		BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN		BASIS	PROCESS STREAM DATA
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN		BASIS	SITE INFORMATION
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN		PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN		BASIS	EQUIPMENT LIST
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN		BASIS	PROCESS CONTROL LOGIC
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN		BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN		BASIS	STREAM DATA
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN		PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF		BASIS	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF		BASIS	EQUIPMENT LIST
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF		BASIS	PROCESS CONTROL LOGIC
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF		BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF		BASIS	PROCESS STREAM DATA
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF		PRODUCT	SYSTEM SPECIFICATIONS
PRODUCE PRELIMINARY ELECTRICAL EQUIPMENT		BASIS	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY ELECTRICAL EQUIPMENT		BASIS	PROCESS CONTROL LOGIC
PRODUCE PRELIMINARY ELECTRICAL EQUIPMENT		BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE PRELIMINARY ELECTRICAL EQUIPMENT		BASIS	PROCESS STREAM DATA
PRODUCE PRELIMINARY ELECTRICAL EQUIPMENT		CONTROLLER	EQUIPMENT LIST
PRODUCE PRELIMINARY ELECTRICAL EQUIPMENT		PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE PRELIMINARY EQUIPMENT & LINE SPEC		BASIS	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY EQUIPMENT & LINE SPEC		BASIS	PROCESS CONTROL LOGIC
PRODUCE PRELIMINARY EQUIPMENT & LINE SPEC		BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE PRELIMINARY EQUIPMENT & LINE SPEC		BASIS	STREAM DATA
PRODUCE PRELIMINARY EQUIPMENT & LINE SPEC		CONTROLLER	EQUIPMENT LIST
PRODUCE PRELIMINARY EQUIPMENT & LINE SPEC		PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST		BASIS	EQUIPMENT SPECIFICATION
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST		BASIS	SITE INFORMATION

PRODUCE PRELIMINARY WEIGHT AND VOLUME EST  
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST  
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST  
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST  
ESTIMATES

BASIS            SYSTEM LAYOUT/DESIGN  
CONTROLLER EQUIPMENT DESIGN PHILOSOPHY  
CONTROLLER SYSTEM SPECIFICATIONS  
PRODUCT        PRELIMINARY WEIGHT AND VOLUME

Activity Class	Involvement Class	Class Object
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST		PRODUCT      WEIGHT AND VOLUME ESTIMATES
PRODUCE PROCESS FLOW DIAGRAMS	BASIS	SITE INFORMATION
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	CODES
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	DESIGN BASIS
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	PROCESS CONTROL LOGIC
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	UNIT OPERATIONS
PRODUCE PROCESS FLOW DIAGRAMS	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
PRODUCE SITE SURVEY AND SOIL INVESTIGATIO		BASIS      SITE INFORMATION
PRODUCE TECHNICAL RISKS ASSESSMENT DESIGN STRA	BASIS	CONCEPTUAL SAFETY ENGINEERING DESIGN
PRODUCE TECHNICAL RISKS ASSESSMENT	BASIS	CONTAINMENT PHILOSOPHY
PRODUCE TECHNICAL RISKS ASSESSMENT	CONTROLLER	DESIGN SAFETY PHILOSOPHY
PRODUCE TECHNICAL RISKS ASSESSMENT	CONTROLLER	REGULATORY REQUIREMENTS
PRODUCE TECHNICAL RISKS ASSESSMENT	PRODUCT	TECHNICAL RISK ASSESSMENT
PROVIDE RESOURCES	BASIS	RESOURCES
PROVIDE RESOURCES	CONTROLLER	AUTHORIZATION PLAN
PROVIDE RESOURCES	CONTROLLER	REGULATORY REQUIREMENTS
PROVIDE RESOURCES	PRODUCT	CAPITAL APPROPRIATION
PROVIDE RESOURCES	PRODUCT	RESOURCES
REVIEW PROCESS DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
REVIEW PROCESS DESIGN	BASIS	STREAM DATA
REVIEW PROCESS DESIGN	CONTROLLER	CODES
REVIEW PROCESS DESIGN	CONTROLLER	STANDARD
REVIEW PROCESS DESIGN	PRODUCT	ENGINEERING PHILOSOPHY
STORE MATERIAL	STORABLE	DOCUMENT TYPE
STORE MATERIAL	STORABLE	ENERGY TYPE
STORE MATERIAL	STORABLE	STREAM
STORE MATERIAL	STORABLE	SUBSTANCE
STORE MATERIAL	STORAGE	FACILITY CLASS
TRANSFER AN ITEM	PERFORMER	FACILITY CLASS
TRANSFER AN ITEM	TRANSFER FROM	FACILITY CLASS
TRANSFER AN ITEM	TRANSFER TO	FACILITY CLASS
TRANSFER AN ITEM	TRANSFERABLE	DOCUMENT TYPE
TRANSFER AN ITEM	TRANSFERABLE	ENERGY TYPE
TRANSFER AN ITEM	TRANSFERABLE	EQUIPMENT TYPE

TRANSFER AN ITEM  
TRANSFORM MATERIAL  
TRANSFORM MATERIAL  
TRANSFORM MATERIAL

TRANSFERABLE  
BASIS  
PERFORMER  
PERFORMER

STREAM  
SUBSTANCE  
FACILITY CLASS  
GRAVITY SEPARATION

Activity Class	Involvement Class	Class Object
TRANSFORM MATERIAL	PRODUCT	SUBSTANCE